Aim of study: Search for plant compounds possessing anti-leukemic properties.

Results: We have shown that 5-hydroxy-7-methoxy flavanone (pinostrobin) isolated from Polygonum lapathifolium ssp. nodosum quickly penetrates through cytoplasm to the cellular nucleus of the cultured cells, and gives intensive apoptotic response in stimulating leukemic cells in vitro. The number of apoptotic cells increased with the concentration of pinostrobin: 10 nM – 25% and 60%; 100 nM – 45% and 76%; 1 μM – 70% and 88% for Jurkat and HL60 cell lines, respectively.

Conclusion: Pinostrobin may be considered as a good candidate for a leukemia chemopreventic agent.

Key words: Pinostrobin, Polygonum lapathifolium ssp. nodosum, Anti-Leukemic Activity